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NOTES ON GEOGRAPHIC DISTRIBUTION

Distribution extension and distribution map of *Chiasmocleis jimi* Caramaschi and Cruz, 2001 (Amphibia: Anura: Microhylidae) and *Proceratophrys concavitympanum* Giaretta, Bernarde and Kokubum, 2000 (Amphibia: Anura: Cycloramphidae)

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ABSTRACT: We provide a review of the geographic range of *Chiasmocleis jimi* and *Proceratophrys concavitympanum* and include new records for these rare species in the Reserva Biológica do Tapirapé, southern Pará, Brazil. Our records extend the known distribution of *C. jimi* and *P. concavitympanum* in Pará state.

Chiasmocleis jimi Caramaschi and Cruz, 2001 is a small microhylid that occurs in the Amazon Rainforest with just a few published records. It was originally described from two localities in Amazonas and Pará states, Brazil (Caramaschi and Cruz 2001). Peloso and Sturaro (2008) collected *C. jimi* from two other localities in Pará. This species is also recorded in Pará state at the Floresta Nacional de Caxiuanã (Ribeiro-Júnior *et al.* 2011) and Reserva Biológica do Rio Trombetas (Funk and Cannatella 2009). Regardless of these records, Frost (2011) and Caramaschi (2004) listed *C. jimi* as known only from the type locality.

Proceratophrys concavitympanum Giaretta, Bernarde, and Kokubum, 2000 is a species without eyelid appendages from the *P. cristiceps* group (*sensu* Prado and Pombal-Jr 2008). It is the only species of *Proceratophrys* known in the Amazon Rainforest (Giaretta *et al.* 2000), originally described from specimens collected in Espigão D'Oeste in Rondônia state. The first record outside the type locality was made by Amaro *et al.* (2009) in UHE Lajeado in Tocantins and the first record for Pará state was made by Barros *et al.* (2011). To this date, some other records for this species were made in other Amazonian areas (Pavan and Dixo 2004; Santana *et al.* 2010; Ávila *et al.* 2011).

Both species were collected at the Reserva Biológica do Tapirapé (REBIOTA) (05°30'13" S, 50°16'44" W) a 150,000 ha reserve located in the municipalities of Marabá and Parauapebas, Pará, Brazil. They were collected during the dry season, from August 3rd to 12th, 2008 and during the rainy season from November 29th to December 9th, 2008. In total, 12 specimens *of C. jimi* and eight specimens of P. *concavitympanum* were collected in pitfall traps, while no specimens were found during active search.

The specimens were collected under permit SISBIO number 16826-1 issued by the Brazilian Ministry of Environment (MMA- ICMBio) and deposited in the herpetological collection at the Museu de Zoologia da Universidade de São Paulo under the numbers: *C. jimi*: MZUSP 139635-139642, 140085, 140139-140141; *P. concavitympanum*: MZUSP 139426-139430, 140118, 140119.

REBIOTA is located in the Mosaico de Carajás, an area that includes five Federal Conservation Units (REBIOTA, Floresta Nacional do Tapirapé-Aquiri, Floresta Nacional de Carajás, Floresta Nacional do Itacaiunas and Área de Proteção Ambiental do Igarapé Gelado) totaling over 800,000 ha of protected areas in southeastern Pará. The predominant vegetation in the region is Floresta Ombrófila Aberta and Floresta Ombrófila Densa (IBGE, 1992) with various palms, bamboos and canga. According to the National Protected Areas Plan, REBIOTA is classified as a protected area of extremely high biological importance (MMA 2007) due to the great human pressure that surrounds the reserve.

The specimens of *C. jimi* (Figure 1A-C) conform to the original description and the paratypes (MZUSP 53980-53988). *Chiasmocleis jimi* can be separated from the other *Chiasmocleis* in the Amazon by the characteristic coloration and by exhibiting swollen tips of fingers III and IV and of toes II-V (tips of all digits not expanded in the other species) (Caramaschi and Cruz 2001). The specimens from REBIOTA extend the range 283 km to the southeast (Figure 2).

The specimens of *P. concavitympanum* collected at REBIOTA (Figure 1D-F) conform to the original description (Giaretta *et al.* 2000), in particular the following characteristics: eyelids bordered by large, irregularly arranged, warts; postocular swellings absent; snout obtuse with flaring lip in profile; tympanum defined as a

depression in the skin (visible in Figure 1E) and adult SVL: mean = 48.92 mm; N= 3. The specimens from REBIOTA extend the range 510 km, constituting the northernmost record for this species and the first record in Pará state (Figure 2).

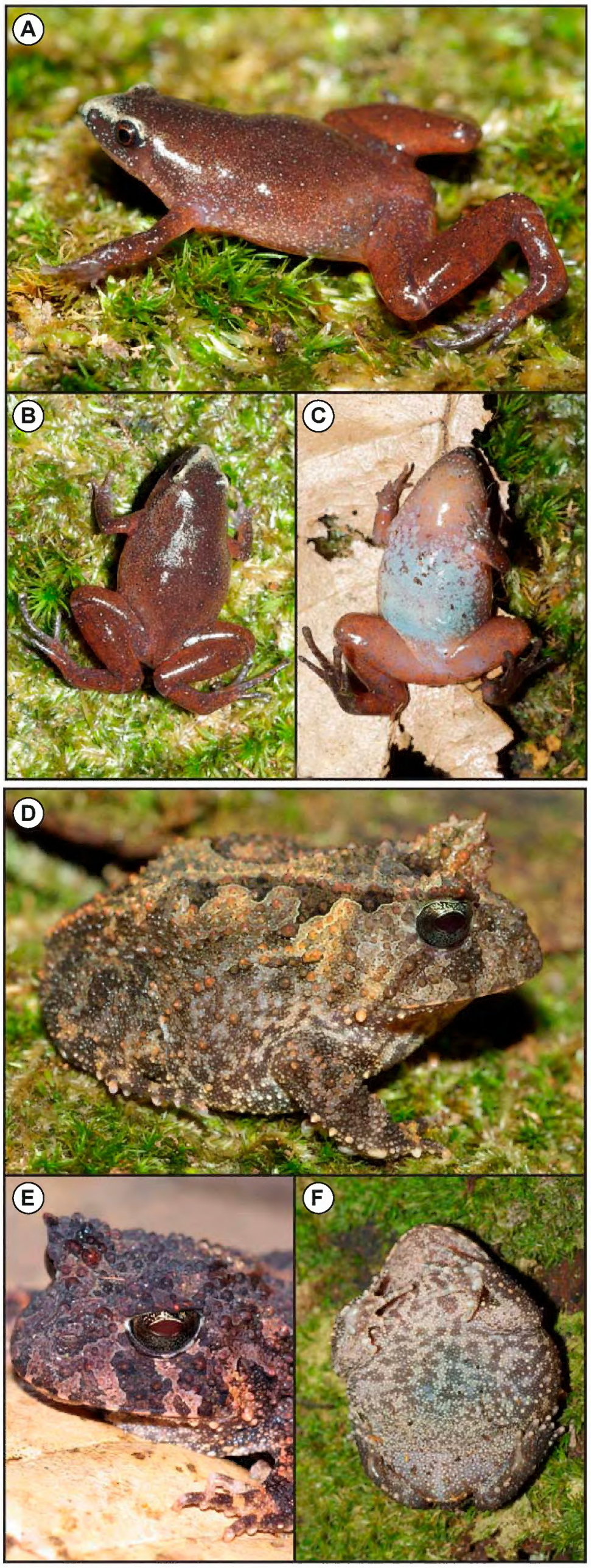

Figure 1. A, B, C: *Chiasmocleis jimi* MZUSP 140140 from REBIOTA; D, E, F: *Proceratophrys concavitympanum* from REBIOTA (D and F: MZUSP 140119; E: MZUSP 139428).

According to the IUCN, *C. jimi* and *P. concavitympanum* are listed as "Data Deficient" due to the lack of information regarding natural history and geographic distribution (Caramaschi 2004; Rodrigues and Caramaschi 2004). This reinforces the importance of these new records and the importance of field surveys in unexplored areas, especially in the very threatened tropical forests of Brazil.

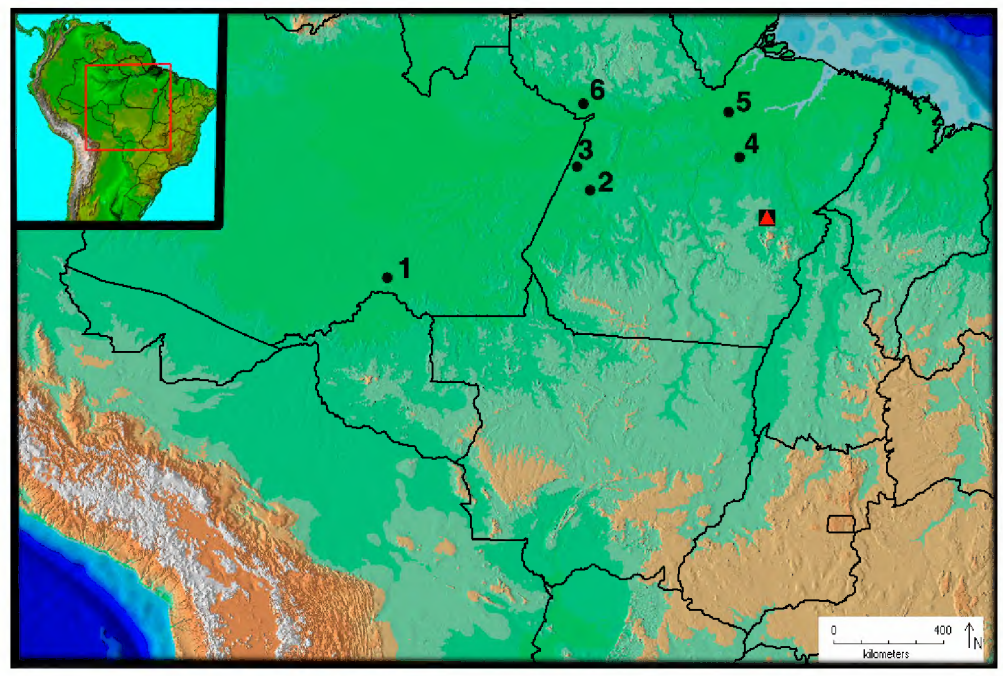

Figure 2. Geographic distribution of *Chiasmocleis jimi*. 1: Type locality: Humaitá, AM (Caramaschi and Cruz 2001); 2: Paratype: Uruá, PA: (Caramaschi and Cruz 2001); 3: Itaituba, PA (Peloso and Sturaro 2008); 4: Anapu, PA (Peloso and Sturaro 2008); 5: FLONA Caxiuanã, PA (Ribeiro-Jr *et al.* 2011); 6: Reserva Biológica do Rio Trombetas (Funk and Cannatella 2009); Red triangle: new record in the REBIOTA.

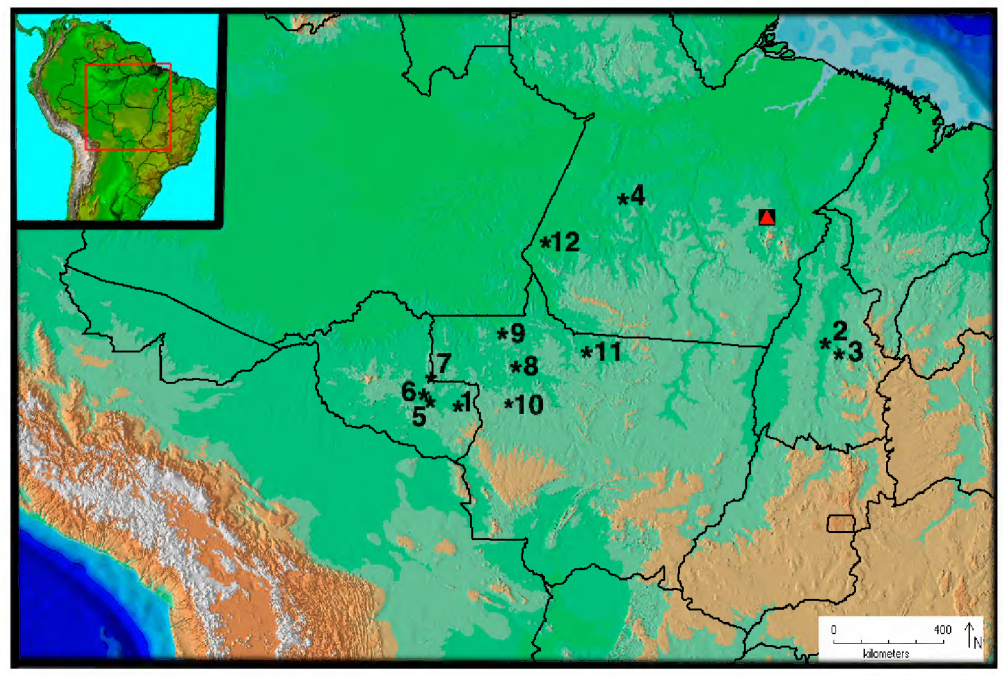

Figure 3. Geographic distribution of *Proceratophrys concavitympanum*. 1: Type Locality: Espigão D'Oeste, RO (Giaretta *et al.* 2000); 2: UHE Lajeado, TO (Amaro *et al.* 2009); 3: UHE Luis Eduardo Magalhães, TO (Pavan and Dixo, 2004); 4: RESEX Riozinho do Anfrízio, Altamira, PA. (Barros *et al.* 2011); 5: Cacoal, RO (Santana *et al.* 2010); 6: Ministro Andreazza, RO (Santana et al. 2010); 7: Rondolândia, RO (Santana *et al.* 2010); 8: Aripuanã, MT (Santana *et al.* 2010); 9: Colniza, MT (Ávila *et al.* 2011); 10: Juína, MT (Ávila *et al.* 2011); 11: Paranaíta, MT (Ávila *et al.* 2011); 12: Jacareacanga, PA (Ávila *et al.* 2011). Red triangle: new record in the REBIOTA.

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